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Capabilities-Based Defense Planning: Building a 21st Century Force

21 September 2004

A Workshop hosted by the Center for Contemporary Conflict and the Cebrowski Institute for Information Innovation and Superiority, Naval Postgraduate School, sponsored by the Office of Force Transformation.

Conference report by James A. Russell, Lashley Pulsipher, and Barry Zellen. The papers presented during the conference will be part of a dedicated issue of *Strategic Insights*.

Introduction

Sixty participants from the defense and academic communities convened in Monterey, California for the Monterey Strategy Seminar from 21-23 September 2004. The first event on September 21st addressed the topic: "Capabilities-Based Defense Planning: Building a 21st Century Force."

The symposium attracted a diverse array of experts from a wide variety of disciplines, with subject expertise ranging from network-centric warfare, to free scale networks, to the Iraq insurgency, to defense planning writ large.

In his opening remarks, conference organizer, Mr. James Russell, explained that one purpose of the conference was to provide an active and ongoing 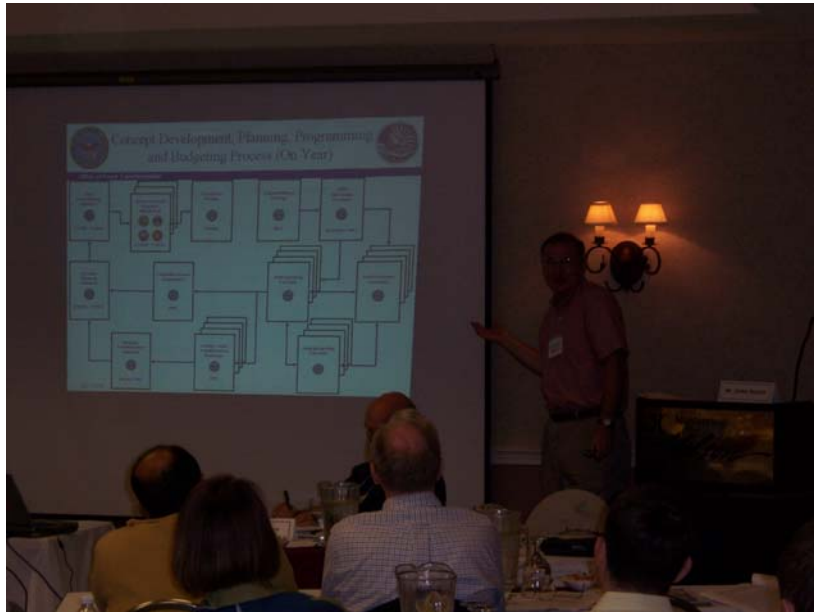exchange among the participants to stimulate new ideas and foster creative ways of thinking about the problems and prospects of the new force planning paradigm. He noted that a central purpose of the workshop was to engage the Naval Postgraduate School community by stimulating long-range thinking and framing salient research questions to assist those professionals that are starting the process of implementing CBP -– the most significant change in defense planning since the introduction of the programming, planning and budgeting system (PPBS) in the 1960s.

Overview

Dr. Tom Hone, Assistant Director for Risk Management in the Office of Force Transformation:

Dr. Tom Hone, Assistant Director for Risk Management in the Office of Force Transformation, delivered the first briefing. During his presentation he explored the background and origins of CBP and the broader efforts to more closely link the roles and missions of Combatant Commanders with the defense planning process in the Pentagon. The emerging planning process is making more of a deliberate effort to tie many disparate elements together in a process of strategic transformation -- not unlike the process first initiated in the 1960s under Defense Secretary McNamara to build a new multi-year defense planning system. Enormous challenges face the Defense Department in this effort, but among them, as noted by Hone, is the tendency of established bureaucracies and organizations to focus on their own specific tasks, making integrated planning extremely difficult. Hone presented a five task framework for moving toward CBP, starting with Task 1—Defense Planning Scenarios which identifies known, plausible and possible adversaries; Task 2—Strategic Capability Definition, which consider such factors as content, capacity, CONOPS, architectures and cost; Task 3—Measures and Metrics, which takes into consideration challenges, risks, and effects-based measures; Task 4—Capabilities Assessment, which introduces a transformed analytical process; and finally, Task 5—Risk-Based, Fiscally Balanced Force Trades, which result from Task 4's transformed analytical processes.

Discussion:

Follow-on discussion focused on "alternative worlds" in defense planning, shifting from "probabilities" to "possibilities" of possible outcomes that will enable us to develop hedging strategies. An issue discussed by participants was how to place these concepts in time-frames that are useful for defense planning purposes. Dr. Hone acknowledged that much of the Defense Department's planning process is still tied to the Program Objective Memorandum, or POM, process that represents the Defense Department's current system of multi-year budgeting.

Other discussion revolved around the question of whether CBP was in fact the opposite of threat-based planning; with various participants noting that much planning is still being using scenarios – albeit a wider range of scenarios than has been used in the past. Hone responded that thinking about capabilities requires planners to analyze the "problem" at a variety of different levels, which can be very difficult to do within current bureaucratic and organizational constraints. He stated that cross service boundaries represent a huge obstacle to unifying the defense planning process, yet these obstacles must be overcome if the Defense Department is to develop an institution-wide appreciation of the capabilities-based paradigm.

Panel One: Strategy & Capabilities-Based Planning

The first panel focused on Strategy and Capabilities-Based Planning, included Commander Ron Boxall J-8 Joint Staff, Major George Nagy, Strategy, Plans and Policy Division, Strategic Command (STRATCOM), and the Honorable Ted Warner, Principal, Booz Allen Hamilton, with Mr. James Russell serving as discussant.

CDR Ron Boxall—As War Fighting Capability based Analysis & Assessment Evolves... Are We Solving The Right Problem?:

CDR Boxall presented a detailed, organizational examination of the emerging CBP process from the Joint Staff's perspective. CDR Boxall explained that CBP provides a top-down Defense Department-wide, strategy-to-concept-to-capabilities approach to ensure that defense planning is directed at the "right" problem, noting the U.S. military has been service-centric and concepts–based since the days of Alfred Thayer Mahan's Sea Power. He stated that the new Joint Capabilities Integration and Development System (JCIDS) will enable war-fighters to shape and influence the mix of capabilities as needed on relatively short notice. JCIDS, he explained, can place proposed programs in the context of strengths and weaknesses of the Joint Force and can usefully highlight steps to correct deficiencies in the ability of the war-fighter to accomplish a variety of different missions. In short, CBP and the implementation process provide an opportunity to focus the "trade-off" discussion at the levels in the organizational planning structure. He emphasized that a particularly challenging problem is that the process itself can be cumbersome, time consuming, and self-defeating – since the objective is to make the planning system more responsive to rapidly changing requirements and missions. Developing a roadmap that can match resources to the planning process is also a necessary next step.

Major George Nagy, Capabilities Based Approach—Implications for STRATCOM:

Major Nagy presented the Strategic Command's perspective on the evolving strategic environment into which CBP is being implemented. He noted that the external environment is marked by the ongoing global war on terrorism (GWOT), which features an asymmetry of both stakes and capabilities in regional conflicts and the emergence of more WMD-armed adversaries. These external factors have implications on use of capabilities — kinetic, non-kinetic, nuclear, non-nuclear, as well as on the perceptions of friends and foes alike. Additionally, Nagy commented on the internal DoD environment— with its own complexities ranging from the existence of multiple defense policy goals (assure, dissuade, deter, defeat); the role of uncertainty in defense planning which precipitates the need for hedging; the need for greater interagency coordination; the role of strategic communications as part of coordinated national effort; and, the changing roles for "traditional" military capabilities.

Hon. Ted Warner, DOD's Ongoing Efforts to Implement CBP:

The final morning panelist was Ted Warner, a principal with Booz Allen Hamilton and former assistant secretary of defense in the Clinton Administration. He began by noting that CBP will be the Bush Administration's legacy, particularly if it is re-elected and thus able to proceed with its development and implementation. He examined the process by which CBP process can field enhanced joint capabilities, preparing for a future security environment by integrating the operational need pull (defined by national strategies as well as both joint operating and integrating concepts to meet critical joint capability needs) and technology push (emerging from science and technology (S&T), as influenced by both basic and applied research), resulting in the concept and capability solution development of the JCIDS process (see description above in Cdr. Boxhall's presentation). Warner presented an organizational slide which included consideration of

the question of new technologies, emphasizing that S&T is an important piece to consider linking in to the process of CBP implementation with service requirements and budgets.

Discussion:

One participant commented on the linkage between CBP and effects-based operations – a scheme of operations that depends on a variety of adaptable, different capabilities depending on the adversary and the mission. These capabilities will be used as "strategic" assets by STRATCOM in its planning process to support theater commanders. Nagy responded by stating that deterrence has to some extent always been an effects-based operation and that going back to classics roots in deterrence theory suggests a strong linkage between deterrence and targeting. But, he noted, in today's environment, we are considering a new set of targeting challenges. CBP drives the planning process towards capabilities that aren't just military, since a variety of other aspects of national power are potentially involved. Looking back to the previous construct of deterrence, Nagy noted that the United States adopted nuclear weapons in part due to its conventional inferiority relative to the Soviet Union and that "massive retaliation" was a logical "economic" response to this asymmetry. He added that the Soviet Union tried to undercut this strategy in Europe, and, as a result, the United States moved to what became known as "flexible response," developing a forerunner to today's capabilities-based approach. Ultimately, Nagy said, the United States may have to be willing to live with nominally optimized solutions that can meet 80 percent of the likely mission requirements.

Other discussion focused on the problems facing the defense planning community on deciding the trade offs between nuclear and non-nuclear capabilities in making decisions on striking against the infrastructure or defenses of an adversary. Mr. Warner noted that these problems as are difficult as ever, and that the decisions on these vital issues are certainly not made any easier in CBP. Warner characterized the difficulties of making comparisons for tradeoffs as the "Gordian Knot."

Panel Two: Methodologies to Implement Capabilities-Based Planning

Wayne Hughes, Dean of NPS' Graduate School of Information and Operational Sciences, chaired the panel on Methodologies to Implement Capabilities-Based Planning, with presentations from Elaine Simmons of LMI, and Peter Denning and Tom Housel of the Naval Postgraduate School

Elaine Simmons, A Capabilities-Based Approach To Force Planning:

Elaine Simmons presented a framework to establish a macro-level bridge between the supply and demand side, noting the disconnect between the supply and demand in the current force structure. She described the current force structure in the Army as like a command economy in terms of the gap between what's needed vs. what's provided, with marked overuse of selected capabilities and under-use of others. Simmons emphasized the desirability of changing the nature of the demand function to ensure that it is better aligned with the "supply" of the assets.

Simmons concluded that strong corporate level direction is essential to connect strategy and the program, and drive major trades. She said we must also separate formulation of needs from solutions since having the same organizational community develop needs and solutions compromises the process and can, among other things, tie the planning process to platform centric analysis. She stated that that recent capabilities-based efforts show progress, but are 'mild-hybrids' at best, since the continued primacy of campaign models limits exploration and that ongoing strong weapons program advocacy in the bureaucracy impedes choice making.

Dr. Peter Denning, Scale Free Networks and Scenario-Based Capabilities:

Professor Denning began his presentation by asking, "How do we go about developing CBP?" He claimed that a top-down approach can never be complete, since people at the top lack complete information, details, yet from the bottom up, engineers don't have all the answers, and furthermore do not have a source to go to get the answers. The challenge then becomes developing capabilities in the face of incomplete, top-down information. Denning noted that we find ourselves working a context defined by network-centric operations which feature highly capable information networks, coordinating large numbers of elements, human and mechanical. As we conduct our operations in the context of these networks, the advantage of scale-free networks emerges.

To explain scale-free networks, which could deal with contingencies when exposed to a threat such as a major wildfire or terrorist threat, much planning is done to prepare a response to the emergency and the preparation of a communications network. The experience has been, however, that because a first responder environment is a very chaotic environment, the response to emergencies can often produce an unplanned network structure. Does this unplanned network work better than the one planned ahead of time? Stated another way, Denning noted, does the chaos of an emergency draw us to another kind of network than the one we planned? If so, certainly having people trained and skilled at dealing with chaotic situations would prove to be an advantage. Creating future network capabilities then poses a challenge. Denning noted the frustration among the Navy's leadership with the lack of speed of Force Net's implementation. Engineers are also frustrated by the difficulty of understanding the official guidance which they feel is sometimes contradictory in their engineering details, incomplete, or ambiguous.

Denning prescribed one possible solution—a consortium dedicated to standardizing the build out of network-centric system within the Navy. Coming along this month is a new DoD Consortium on the Grid (COG) which he hopes will provide a completely bottom up process to fill in the gaps left by the top down processes. This will be a partnership between government and industry that looks at solutions to implementing the Navy's Force Net programs. He suggested that planners look at the COG as one model that could assist planners in implementing CBP.

Dr. Tom Housel, Naval Postgraduate School, An Options-Based Approach to Capabilities-Based Planning:

Dr. Housel's presentation focused on the issues related to process reengineering.   He framed a series of analytical questions in tying downsizing in the business world to process re-engineering:

Are we getting rid of the right things? Do we know the effect on our product? Housel compared the CBP environment to a business environment that measures what is earned vs. what is spent, since planners must be able to arrive at options in situations where they know the assets are insufficient. Retraining U.S. forces takes time and money, but eventually produces more output. Just as there is a return on investment (ROI), there can be a return on knowledge assets. Calculating these options can require complicated math but new

software applications can help in this process to anticipate changes to the operational environment. Housel suggested the adoption of a planning model that can quantify costs for decision-makers in deciding which capabilities to develop to function in the "new" market.

Panel Three: Today's Navy—Opportunities for Capability-Based Planning:

The first afternoon panel was chaired by NPS professor Dr. Jim Wirtz, and included presentations from Mr. Trip Barber, Director, Analysis, Programming & Integration Division, OPNAV N70; and Dr. Eric Thompson, from the Center for Naval Analyses.

Trip Barber, Director, Analysis, Programming & Integration Division, OPNAV N70:

Trip Barber's presentation focused on the Naval Capabilities Development Process, which includes Sea Power 21 (capabilities, concepts, processes). With Process Transformation, Barber explained that the naval capabilities development process is evolving from a threat-based, platform-centric requirement process to a capabilities-based process measured against what it takes to win. Its four pillars are Sea Shield, Sea Strike, Sea Base and FORCEnet. Next, he said the Navy must come up with metrics to measure the process of implementation and the achievement of the capabilities as envisaged in the four pillars.

Barber discussed Scenario Based Warfighting Analysis. Using scenarios, Barber said the Navy plans for the basis of capabilities, using what it takes to get to operate successfully in scenarios and environments, such as a joint land campaign to defeat a regional power in a WMD environment, or a global campaign against terrorism or threats to the homeland.

Force capability metrics will help determine how much is enough in terms of matching capabilities to mission areas. Mission-level metrics can help detect, identify, track, decide, engage and assess, and provide quantitative values for mission-level performance requirements. Once assessed, then the Navy can identify gaps and determine, the Navy's ability to win in different kinds of campaigns. A scoring system translates capabilities into numbers, coming up with a ranking on relative adequacy. For Sea Trial, he noted, in order to build sufficient force structure, it is necessary to test against scenarios. The Integrated Strategic Capabilities Plan thus balances each naval warfare capability to meet fiscal constraints while ensuring that the joint force can win.

Panel moderator, Professor Jim Wirtz of NPS, observed prior to the question period that the Navy is particularly well suited to capabilities based planning, and since the cold war it has expanded from playing one scenario to two and now four scenarios. One participant asked about the goal of dissuasion, and what it takes to dissuade other powers. Barber explained that our theory is if we are equipped to win, we'll know it, they'll know and thus they will be dissuaded.

Dr. Eric V. Thompson, The Potential For Capabilities Based Planning For Naval Forces In The CENTCOM AOR:

Next, Dr. Eric Thompson, from the Center for Naval Analyses, addressed the specific potential for applying CBP to the Central Command's area of operations, using his experience with the Naval Central Command Component, known as NAVCENT (or the 5th Fleet). Thompson said the tough part is determining the day-to-day force structure and identifying requirements accomplish missions that can widely vary on a daily basis. Thompson explained that the goals and objectives of the Global War on Terrorism (GWOT) are well-defined, therefore the challenge is how to create a linkage between forces on hand and accomplishing the objectives as spelled out in higher-level guidance. Thompson explained that by looking forward, CBP provides a means for planners to address an environment that is characterized by strategic uncertainty. CPB can, if implemented properly, assist forward deployed forces in firming up the linkage between strategic and operational goals and the forces on hand to accomplish the mission.

Discussion:

Follow-on discussion focused on the need to develop a methodology and metrics that could be universally applied across all the services to systematically implement CBP. The Navy's system remains separate and distinct from the other military departments with a reluctance to adopt methodologies and metrics that are analytically rigorous and defensible to decision-makers. Other discussion focused on a disconnect in the CBP process in which ill-defined strategic and operational guidance promotes confusion and even obfuscation at different levels of the planning and execution process.

Panel Four: Terrorism, Insurgency and Other Operational Challenges

Professor Dan Moran chaired the panel on Terrorism, Insurgency and Other Operational Challenges, with presentations from Dr. Hank Gaffney, Dr. Ahmed S. Hashim, and Dr. Steven Blank.

Dr. Hank Gaffney, Center for Naval Analyses, The Global War on Terror (GWOT)—And how the United States may approach it (including some aspects of force Transformation):

Dr Hank Gaffney presented his thoughts on the global war on terrorism (GWOT). He discussed the strategic context emerging from what he characterized as the three levels of globalization; (1) the core of industrialized societies participating in globalization; (2) an arc of crisis or zone of turbulence that roughly corresponds with the Islamic world (with the addition of rogues and failed states like North Korea and Colombia); (3) the remaining poor countries located mostly in Africa that are excluded from globalization.

Gaffney expects that as globalization proceeds, Russia, China and India will join the core. Islamic activism will continue, as the left-outs continue to feel aggravated, and that these countries could potentially master weapons of mass destruction technology. Potentially, he noted, the world will return to 3 blocs: the US, the EU, and

China/Asia. To prepare for these possibilities, U.S. forces must hedge against China; maintain a strong dissuasive military as the U.S. works to support global free trade; and maintain and extend alliances around the world, working with the international community on poor and failing states.

Dr. Ahmed S. Hashim, Naval War College, The Iraq Insurgency:

Dr. Hashim, presented the results of research during his experience while deployed as a reservist in Iraq from October-December 2003 and again on February-March 2004.

Dr. Hashim's presentation touched upon counterinsurgency strategy in Iraq and lessons learned from a comparative study of other historical insurgencies. He shared many personal insights to the current situation in Iraq which detailed the challenges the insurgency poses to US forward deployed forces and the wider implications for defense planning.

Dr. Steven Blank, Army War College, Network Centric Warfare and Capabilities-Based Planning:

In the symposium's final presentation Dr. Steven Blank presented a paper on network-centric warfare, which he characterized as part of the "holy trinity" of Transformation. Dr. Blank stated that the most important step in the planning process is strategic guidance. Regrettably, Dr. Blank noted, the United States has done a poor job of crafting this guidance. Poorly crafted strategic guidance in Iraq, he stated, limited the ability of on-scene commanders to respond the security environment inside Iraq once the conventional phase of combat operations had ended. He noted that the ability to formulate accurate, clear strategic guidance should be considered as a "capability" in and of itself. Dr. Blank posited the notion that that strategic planning has increasingly become divorced from the nature of the wars we fight, and that our planning was designed to win battles, not wars, in the information age. Dr. Blank said we need to win wars, not battles, but this is an integrative process, and CBP is a requirement for this process.

Discussion:

During the question period that followed, one participant noted that it seemed unfair to criticize CBP in the current Iraqi situation, since the strategic failures were not related to CBP but reflected a shift in thinking about Phase IV operations. This particular phase of operations was de-emphasized in the war plan, which hindered the ability of deployed forces to transition to a new series of mission requirements.

One participant asked about the role of technology in Iraq, and Hashim noted the ingenuity of the Iraqi insurgents producing improvised explosive devices, an ingenuity matched only by US ordnance disposal experts. This has lead to a capabilities "race" by both sides striving to keep the tactical initiative. The operational environment highlights the continuing challenges posed by adversaries using asymmetric tactics in an increasingly organized and systematic campaign. In many respects, said Hashim, Iraq's considerable human capabilities are being brought to bear in a negative sense on the battlefield, with highly educated segments of the population using their skills against the occupying forces. Another participant asked about WMD terrorism, and Hashim

noted that traditionally, WMD is used against the weaker side, with chemical warfare, for example, allegedly being used by the British against Iraqi tribesmen during the 1920s. And while both sides in the Arab/Israeli conflict had WMD as a weapon of last resort, the weapons were used, since the side contemplating use would have faced an adversary that could respond in kind. And now, Hashim noted, Iran is acquiring nuclear weapons, not to use WMD but to deter aggression against Tehran. Hashim concluded that nuclear weapons have a very important utility for deterrence, but that using them in conflict is unlikely.

After the question period, brief closing remarks were presented by Dr. Tome Hone from OFT, and James Russell of NPS thanked the participants, inviting them to a conference reception and dinner that evening. The papers presented during the conference will be part of a dedicated issue of *Strategic Insights.*